

DEPARTMENT OF TRANSPORTATION

Research and Special Programs
Administration

49 CFR Parts 172, 173

[Docket No. HM-126B; Notice No. 79-14]

Improved Descriptions of Hazardous
Materials for Emergency Response

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

ACTION: Notice of proposed rulemaking.

SUMMARY: Considering the recent proposals under this Docket pertaining to the display of identification numbers to provide an improved emergency response capability for hazardous materials in transportation, including organic peroxides, the Materials Transportation Bureau (MTB) believes it is necessary that certain hazardous materials be more specifically identified than is presently required. The MTB proposes (1) to add new entries to the Hazardous Materials Table for certain generic groupings of pesticides and certain generic n.o.s. listings for classes of materials having multiple hazards; (2) to require identification by technical name on the shipping paper and package for a hazardous material shipped under an n.o.s. entry; (3) that the words "water reactive" and "poison" be added to shipping papers when these hazards exist and are not reflected in required descriptions, and (4) a number of other changes and additions to the Hazardous Materials Table.

DATES: Comments on this additional proposal must be received on or before January 9, 1980.

ADDRESS COMMENTS TO: Dockets Branch, Materials Transportation Bureau, Washington, D.C. 20590 (telephone: 202-426-3148). It is requested that five copies be submitted. The Dockets Branch is located in Room 8426 of the Nassif Building, 400 7th St., S.W., Washington, D.C., Office hours are 8:30 a.m. to 5 p.m., Monday thru Friday.

FOR FURTHER INFORMATION CONTACT: Lee E. Metcalfe, Standards Division, Office of Hazardous Materials Regulation, Materials Transportation Bureau, Department of Transportation, Washington, D.C. 20590, 202-426-0656.

SUPPLEMENTARY INFORMATION: The MTB published a notice of proposed rulemaking in the Federal Register on June 7, 1979 (44 FR 32972; Docket No. HM-126A; Notice No. 79-9), proposing

the adoption of a numerical identification system for hazardous materials transported in commerce. In the July 26, 1979, Federal Register (44 FR 43858; Docket No. HM-126A; Notice No. 79-9 and 44 FR 43864; Docket HM-171; Notice No. 79-11) supplemental notices were published proposing to adopt the numerical identification system for organic peroxides, and to authorize the optional use of United Nations' shipping descriptions and identification numbers for certain hazardous materials in place of the descriptions required by existing DOT regulations. The objective of the proposals in this notice is to augment the previous proposals by adding to the Hazardous Materials Table certain entries necessary to improve the identification of the hazards of many materials. The MTB believes these improved hazardous materials identifications are essential to the successful accomplishment of an emergency response system which will be accessed by means of identification numbers.

The MTB has been requested by the Environmental Protection Agency to consider requiring the identification of each n.o.s. entry on shipping papers and package markings by the technical name of the hazardous material. This would permit more accurate identification of the material for emergency response actions. This is already a requirement for export shipments by vessel and the MTB agrees that safety would be enhanced by such a requirement since more specific information would be immediately available for use in emergency response actions. For a mixture containing two or more hazardous materials, at least two of the components which contribute most to the hazards of a material would be required to be identified. However, the MTB does not propose to apply this requirement to hazardous materials authorized to be described and shipped as Limited Quantities.

The Hazardous Materials Table does not contain a generic description applicable to all pesticides (i.e., pesticide, liquid or solid, n.o.s.). Addition of a generic description for pesticides to the Table would not provide sufficient information to identify the type of pesticide and, consequently, it would be difficult to specify appropriate action to be taken in the event of an accident involving spillage or exposure. Conversely, it would be virtually impossible to list each pesticide by name and possible formulation. The MTB believes an appropriate approach would be to identify and describe pesticides by

chemical groups based on their chemical structures. This approach would enable first aid and medical advice to be linked to such groups. To this end, fifteen groups of pesticides have been identified which the MTB has proposed for addition to the Hazardous Materials Table. Within each of the fifteen groups, there would be three separate entries, which would distinguish the form (i.e., liquid or solid), and for liquids would distinguish the hazard class (i.e., flammable liquid or poison B liquid). Thus, a total of forty-five descriptions would be added to the Table to identify pesticides by chemical structure, form, and hazard class. The MTB estimates that these forty-five descriptions would apply to more than ninety percent of the pesticides transported.

Also, the MTB is proposing the addition of eight generic n.o.s. entries addressing multiple hazards. These multiple hazard entries consist of such n.o.s. descriptions as Corrosive liquid, poisonous, n.o.s., Flammable liquid, corrosive, n.o.s. and Oxidizer, corrosive liquid, n.o.s. The MTB believes these new entries will provide improved identification of a number of hazardous materials in association with the additional labeling requirement proposed for the entries in column (4) of the Hazardous Materials Table.

In addition to assigning identification numbers to the hazardous materials, the MTB believes that certain additional shipping paper entries would be beneficial to emergency response personnel and carriers. Specifically the entries being proposed are the phrase "Water Reactive" for a material required to be labeled FLAMMABLE SOLID and DANGEROUS WHEN WET; and the word "Poison" for a material required to bear a POISON label, classed other than as a Poison B and not otherwise identified as a poisonous material on the shipping paper. The MTB agrees with the Association of American Railroads recommendation that such a warning be added to the shipping paper entry for certain materials required to be labeled FLAMMABLE SOLID and DANGEROUS WHEN WET to quickly identify the material as having a potential of being water reactive during an emergency. The American Trucking Associations, Inc., petitioned the MTB for a rule change to add the word "Poison" to a shipping paper to assist the carrier in complying with § 177.841(e). The MTB agrees that it would permit carrier personnel who load vehicles to be aware of the POISON label and to plan loads accordingly. The same situation would exist for the rail carrier when

such references as §§ 174.280, 174.380, 174.480, 174.580 and 174.680 are considered, for the air carrier when considering § 175.630, and for carriage by vessel when §§ 176.331 and 176.600 are considered. Also, such an entry would assist quick identification of a poison hazard during an emergency.

Dichloropropene and propylene dichloride mixture was placed in the Hazardous Materials Table as a Corrosive material under Docket HM-57 (38 FR 35467; December 28, 1973). However, a review of current references, including the United Nations "Transport of Dangerous Goods" and the IMCO "Dangerous Goods Code", indicate the hazard class of Flammable liquid is more appropriate. The National Fire Protection Association, in its manual entitled "Fire Hazard Properties of Flammable Liquids, Gases and Volatile Solids," indicates the flash point of the first named material in the mixture as 95° F. and the other as 60° F. thus, changing the hazard class of the mixture to Flammable liquid would reflect the flammable nature of this mixture and more appropriately describe the hazard that would be important in emergency response.

Also, the MTB proposes to revise the heading and paragraph (a) of § 173.352 to include Cyanide solutions, n.o.s. classed as a Poison B, UN 1935, which would be added to the Hazardous Materials Table even though not shown in the § 172.101 Table in this notice. The omission of this material from the Table came to MTB's attention shortly before publication of this notice. Due to the manner in which MTB programs and retrieves this Table from automatic data processing equipment, reprogramming the Table would have inordinately delayed publication of this notice. However, despite the fact that the entry Cyanide solutions, n.o.s. does not appear in the formal proposal, MTB is proposing that it be added to the Hazardous Materials Table and hereby gives notice of such proposal. The MTB believes the packagings authorized by § 173.352 for sodium cyanide or potassium cyanide are more appropriate for cyanide solutions, n.o.s. than the general packagings that would otherwise be authorized for this material under § 173.346 for a poisonous liquid, n.o.s.

Fuel, aviation turbine, engine is now in the Table as a Flammable liquid and the MTB proposes to provide an additional entry for it as a Combustible liquid. The MTB has been informed that having this fuel properly identified on the shipping paper will help the aviation industry insure that the correct fuel is

being delivered for use in the operation of aircraft. Aviation turbine engine fuel shipped as Fuel oil or as Combustible liquid, n.o.s. for use in aircraft apparently leaves a degree of uncertainty about the actual identity of the material. The MTB believes that the cost for this relatively minor change in documentation would be far outweighed by even a small improvement in aviation safety.

The MTB proposes that § 173.151a(a)(3) be revised to permit continued classification of a hazardous material according to its predominant hazard when it contains an organic peroxide without placing an asterisk before each organic peroxide entry. It is possible that when certain stabilizing diluents are added to certain organic peroxides the predominate hazard is that of the diluent rather than the organic peroxide.

A number of other additions and changes to the Hazardous Materials Table are proposed based on petitions for rulemaking and other sources. Proposed additional entries include Propargyl alcohol which is flammable and poisonous; Chloroprene, uninhibited which would be listed as forbidden (uninhibited chloroprene may polymerize spontaneously so as to cause dangerous evolution of heat); and Chloroprene, inhibited which is a Flammable liquid. Further, additional entries proposed are: Alcoholic beverage; Benzidine; Bromochloromethane; Calcium hypochlorite, hydrated; Chlordane (Flammable liquid); Furan; Morpholine; Morpholine, aqueous mixture; Paraldehyde; Pinene; and 1,1,1, Trichloroethane. Packaging reference revisions are proposed for the Compressed gas, n.o.s.; Refrigerating machine and Strychnine, solid entries while an additional label requirement is proposed for the three Hydrogen peroxide entries.

A comment to Docket HM-126A was received which indicated that if a longer comment period had been available, an evaluation of the assignment of identification numbers would have been made for submission with the comment. Since identification numbers have been proposed for assignment to hazardous materials in Docket HM-126A (44 FR 32972; June 7, 1979), Docket HM-126A Supplement (44 FR 43858; July 26, 1979), and this Docket, such comments may be submitted in response to this notice, if they were not provided in earlier comments.

The primary drafters of this notice are George E. Cushmac and Lee E. Metcalfe of the Office of Hazardous Materials

Regulation, Materials Transportation Bureau.

In consideration of the foregoing, it is proposed to amend Parts 172 and 173 of Title 49, Code of Federal Regulations as follows:

PART 172—HAZARDOUS MATERIALS TABLE AND HAZARDOUS MATERIALS COMMUNICATIONS REGULATIONS

1. Section 172.101, the Hazardous Materials Table, would be amended by the addition of the following entries in their appropriate alphabetical sequence with the accompanying identification number for each in Column 3(a).

§ 172.101 Hazardous materials table.

2. In § 172.203 paragraph (i)(2) would be deleted; paragraph (i)(3) would be redesignated as (i)(2); paragraphs (j), (k) and (l) would be added to read as follows:

§ 172.203 Additional description requirements.

* * * * *

(j) If a material is properly described according to an n.o.s. entry in § 172.101 or § 172.102, the technical name of the material shall be entered in parentheses on the shipping paper immediately following the proper shipping name. For example: Corrosive liquid, n.o.s. (caprylyl chloride), Corrosive material, UN1760. If the material is a mixture of two or more hazardous materials, the technical names of at least two components most predominantly contributing to the hazard or hazards of the mixture shall be entered in parentheses. For example: Flammable liquid, corrosive, n.o.s. (methyl alcohol, potassium hydroxide) UN2924. This paragraph does not apply if—

(1) The n.o.s. description for material (other than a mixture of hazardous materials of different classes meeting the definition of more than one hazard class) contains the name of the chemical element or group which is primarily responsible for the material being included in the hazard class indicated. For example, Mercury compound, n.o.s., solid Poison B, UN2025.

(2) The material is authorized and properly described as a Limited Quantity (see § 171.8 of this subchapter).

(k) *Dangerous When Wet.* Except for a hazardous material described as a Water reactive solid, n.o.s., the words "Water Reactive" shall be entered on the shipping paper in association with the basic description when a package covered by the basic description is required to be labeled with a Dangerous When Wet label.

(l) *Poison.* If there is no indication in the shipping name or hazard class that a

material is a poison, the word "Poison" shall be entered on the shipping paper in association with the basic description when a package covered by the basic description is required to be labeled with a POISON label.

3. Section 172.300 would be revised to read as follows:

§ 172.300 General marking requirements.

(a) Except for portable tanks, cargo tanks and tank cars, and as otherwise provided by this subchapter, each person who offers a package containing a hazardous material for transportation shall mark the package in proximity to any label required by this subchapter with—

(1) The proper shipping name prescribed for the material as required by § 172.101 or § 172.102,

(2) The technical name(s) of the hazardous material(s) in the same manner, and under the same conditions, as required for shipping papers by § 172.203(j), and

(3) The identification number listed for the hazardous material in § 172.101 or § 172.102 as appropriate, immediately following the proper shipping name or the technical name, if required.

(b) When it has been determined that a package has been previously marked as required for the material it contains, it need not be remarked.

PART 173—SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGINGS

4. Section 173.151(a)(3) would be revised to read as follows:

§ 173.151a Organic peroxide; definition.

(a) * * *

(3) It is determined that the predominant hazard of the material containing an organic peroxide is other than that of an organic peroxide; or

* * * * *

5. Section 173.352 Heading and paragraph (a) would be revised to read as follows:

§ 173.352 Sodium and potassium cyanide solutions, and cyanide solution, n.o.s.

(a) Sodium and potassium cyanide solutions, and cyanide solutions, n.o.s. must be packed in specification packagings as follows:

* * * * *

(49 U.S.C. 1803, 1804; 49 CFR 1.53, App. A to Part 1, and paragraph (a)(4) of App. A, Part 106).

Note.—The Materials Transportation Bureau has determined that this proposed regulation will not have a major economic impact under the terms of Executive Order 12044 and DOT implementing procedures (44 FR 11034) nor an environmental impact which would

require the preparation of an environmental impact statement under the National Environmental Policy Act (49 U.S.C. 4321 et seq.). A regulatory evaluation and environmental assessment is available for review in the Docket.

Issued in Washington, D.C. on November 2, 1979.

Alan I. Roberts,

Associate Director for Hazardous Materials Regulation, Materials Transportation Bureau.

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S172.101 Hazardous Materials Table (cont'd)

(1) E/ A/ W	(2) Hazardous materials descriptions and proper shipping names	(3) Hazard class	(3A) ID Number	(4) Label(s) required (if not excepted)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments			
					(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements	
	Nitrophenol pesticide, substituted (compounds and preparations), liquid or solid, n.o.s. See Substituted nitrophenol pesticide (compounds and preparations), liquid or solid, n.o.s.											
	Organochlorine pesticide (compounds and preparations), liquid, n.o.s.	Flammable liquid Poison B	UN2762	Flammable liquid Poison	173.118	173.119	1 quart	10 gallons	1.2	1		
	Organochlorine pesticide (compounds and preparations), liquid, n.o.s.	Poison B	UN2761	Poison	173.345	173.346	1 quart	55 gallons	1.2	1.2		
	Organochlorine pesticide (compounds and preparations), solid, n.o.s.	Poison B	UN2761	Poison	173.364	173.365	50 pounds	200 pounds	1.2	1.2		
	Organophosphorus pesticide (compounds and preparations), liquid, n.o.s.	Flammable liquid Poison B	UN2784	Flammable liquid Poison	None	173.119	Forbidden	1 quart	1.2	5		
	Organophosphorus pesticide (compounds and preparations), liquid, n.o.s.	Poison B	UN2783	Poison	173.359	173.359	Forbidden	1 quart	1.2	5		
	Organophosphorus pesticide (compounds and preparations), solid, n.o.s.	Poison B	UN2783	Poison	173.377	173.377	Forbidden	200 pounds	1.2	4		
	Organotin pesticide (compounds and preparations), liquid, n.o.s.	Flammable liquid Poison B	UN2787	Flammable liquid Poison	173.118	173.119	1 quart	10 gallons	1.2	1		
	Organotin pesticide (compounds and preparations), liquid, n.o.s.	Poison B	UN2786	Poison	173.345	173.346	1 quart	55 gallons	1.2	1.2		
	Organotin pesticide (compounds and preparations), solid, n.o.s.	Poison	UN2786	Poison	173.364	173.365	50 pounds	200 pounds	1.2	1.2		
	Oxidizer, corrosive liquid, n.o.s.	Oxidizer	NA0193	Oxidizer and Corrosive	None	173.245 173.245a	Forbidden	1 quart	1	4		
	Oxidizer, corrosive solid, n.o.s.	Oxidizer	NA0194	Oxidizer and Corrosive	173.153	173.154	25 pounds	25 pounds	1	4		
	Paraldehyde	Flammable liquid	UN1264	Flammable liquid	173.118	173.119	1 quart	10 gallons	1.2	1		
	Phenoxy pesticide (compounds and preparations), liquid, n.o.s.	Flammable liquid	UN2766	Flammable liquid and Poison	173.118	173.119	1 quart	10 gallons	1.2	1		
	Phenoxy pesticide (compounds and preparations), liquid, n.o.s.	Poison B	UN2765	Poison	173.345	173.346	1 quart	55 gallons	1.2	1.2		
	Phenoxy pesticide (compounds and preparations), solid, n.o.s.	Poison B	UN2765	Poison	173.364	173.365	50 pounds	200 pounds	1.2	1.2		
	Phenylurea pesticide (compounds and preparations), liquid, n.o.s.	Flammable liquid Poison B	UN2768	Flammable liquid Poison	173.118	173.119	1 quart	10 gallons	1.2	1		
	Phenylurea pesticide (compounds and preparations), liquid, n.o.s.	Poison B	UN2767	Poison	173.345	173.346	1 quart	55 gallons	1.2	1.2		
	Phenylurea pesticide (compounds and preparations), solid, n.o.s.	Poison B	UN2767	Poison	173.364	173.365	50 pounds	200 pounds	1.2	1.2		
	Phthalimide derivative pesticide (compounds and preparations), liquid, n.o.s.	Flammable liquid	UN2774	Flammable liquid	173.118	173.119	1 quart	10 gallons	1.2	1		
	Phthalimide derivative pesticide (compounds and preparations), liquid, n.o.s.	Poison B	UN2773	Poison	173.345	173.346	1 quart	55 gallons	1.2	1.2		
	Phthalimide derivative pesticide (compounds and preparations), solid, n.o.s.	Poison B	UN2773	Poison	173.364	173.365	50 pounds	200 pounds	1.2	1.2		
	Pinene	Flammable liquid Poison B	UN2368	Flammable liquid Poison and Corrosive	173.118	173.119	1 quart	10 gallons	1.2	1		
	Poisonous solid, corrosive, n.o.s.	Poison B	UN2928	Poison and Corrosive	173.364	173.365	25 pounds	100 pounds	1	4		
	Propargyl alcohol	Flammable liquid	NA1086	Flammable liquid and Poison	None	173.119	Forbidden	1 quart	1.2	5		
	Substituted nitrophenol pesticide (compounds and preparations), liquid, n.o.s.	Flammable liquid	UN2780	Flammable liquid	173.118	173.119	1 quart	10 gallons	1.2	1		
	Substituted nitrophenol pesticide (compounds and preparations), liquid, n.o.s.	Poison B	UN2779	Poison	173.345	173.346	1 quart	55 gallons	1.2	1.2		
	Substituted nitrophenol pesticide (compounds and preparations), solid, n.o.s.	Poison B	UN2779	Poison	173.364	173.365	50 pounds	200 pounds	1.2	1.2		
	Triazine pesticide (compounds and preparations), liquid, n.o.s.	Flammable liquid Poison B	UN2764	Flammable liquid Poison	173.118	173.119	1 quart	10 gallons	1.2	1		
	Triazine pesticide (compounds and preparations), liquid, n.o.s.	Poison B	UN2763	Poison	173.345	173.346	1 quart	55 gallons	1.2	1.2		
	Triazine pesticide (compounds and preparations), solid, n.o.s.	Poison B	UN2763	Poison	173.364	173.365	50 pounds	200 pounds	1.2	1.2		
	1,1,1-Trichloroethane. See Methyl chloroform (Delete)											
	Dichloropropene and propylene dichloride mixture Engine, internal combustion (Revise) Compressed gas, n.o.s.	Corrosive mixture Nonflammable gas	NA2047 UN1956	Corrosive Nonflammable gas	173.244 173.120 173.306 173.307	173.245 173.302 173.304 173.305	1 quart 150 pounds	10 gallons 300 pounds	1.2 1.2	1.2 1.2		
	Hydrogen peroxide solution (8% to 40% peroxide)	Oxidizer	UN2014	Oxidizer and Corrosive	173.244	173.266	1 quart	1 gallon	1.2	1		Shade from radiant heat. Separate from permanganates. Keep away from powdered metals.
	Hydrogen peroxide solution (40% to 52% peroxide)	Oxidizer	UN2014	Oxidizer and Corrosive	173.244	173.266	Forbidden	Forbidden	1	4		Shade from radiant heat. Separate from powdered metals.
	Hydrogen peroxide solution (over 52% peroxide)	Oxidizer	UN2015	Oxidizer and Corrosive	None	173.266	Forbidden	Forbidden	1	5		Shade from radiant heat. Separate from permanganates. Keep away from powdered metals. Concentrations greater than 40% hydrogen peroxide not permitted on any vessel except under conditions approved by the Department.
	Refrigerating machine	Nonflammable gas	UN2857	Nonflammable gas	173.306 173.307		No limit	No limit	1.3	1.3		
	Strychnine, solid	Poison B	UN1692	Poison	173.364	173.365	Forbidden	200 pounds	1.2	1.2		