



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

DEPARTMENT OF
TRANSPORTATION

Hazardous Materials Regulations
Board

[Docket No. HM-8]

TRANSPORTATION OF HAZARDOUS
MATERIALS

Request for Public Advice on Labels
and Classification

On August 21, 1968 (33 F.R. 11862), the Hazardous Materials Regulations Board announced a plan to revise the regulations governing the transportation of hazardous materials. That document announced the intention to issue notices of proposed rule making in at least four areas, including "classification and labels", and invited public help in developing the basic regulatory principles to guide the Board in revising the regulations.

The Board is planning to consider, in the near future, a proposal for classification and labels. To assist the Board in that consideration, the public is invited to express its views on the labeling system recommended by the United Nations Committee of Experts on the Transport of Dangerous Goods,¹ and on the correlative classifications.

This document is not a proposal to change the regulations. It is an effort to get public participation early in the rule-making process.

The United Nations labels are color coded and identify each kind of hazard with a pictorial symbol and classification number.

Each label represents a class of hazard, so the first things to consider is classification. To limit the number of classes, each class must be a compromise between (i) the detail which would be necessary to cover the infinite number of materials which may be transported, and (ii) the simplicity which is necessary for the regulations to have any practical value. The changes in classification proposed below are such a compromise.

The following table compares the U.N. classes and the proposed classes. Although they are not shown, most of the U.N. classes have subdivisions which are similar to the subdivisions of the proposed classes:

¹ May be purchased for \$5.50 from:

United Nations Sales Section, New York, N.Y.

Order by this title:

Transport of Dangerous Goods (1966), ST/ ECA/81/Rev. 1, E/CN.2/Conf.5/10/Rev. 1, Sales No. 1967 VIII.2.

U.N. classes

Class 1—Explosives.....

Class 2—Gases: Compressed, liquified, or dissolved under pressure.

Class 3—Inflammable liquids. Liquids which give off an inflammable vapor at or below 160° F. open test. (The word "Inflammable" in the U.N. system has the same meaning as "Flammable.")

Class 4—Inflammable solids; substances liable to spontaneous combustion; substances which, on contact with water, emit inflammable gases.

Class 5—Oxidizing substances; organic peroxides.

Class 6—Poisonous (toxic) and infectious substances.

Class 7—Radioactive substances.....

Class 8—Corrosives.....

Class 9—Miscellaneous dangerous substances. (This is an undefined catchall.)

Proposed classes (classification)

Class 1—Explosives.

Explosives A.

Explosives B.

Explosives C.

Class 2—Compressed gases (including liquified gases):

Nonflammable.

Flammable.

Class 3—Flammable liquids; combustible liquids:

Flammable liquids—flash point at or below

80° F. (open-cup) or 73° F. (closed-cup).

Combustible liquids—flash point at 81° to

150° F. (open-cup) or 74° to 141° F. closed-

cup).

Note: This is an alternative to the proposal

in Docket No. HM-3; Notice No. 68-2, to

raise the definition of flammable liquids to

110° F. (open-cup) or 100° F. (closed-cup).

Class 4—Flammable solids; spontaneously com-

bustible materials; water reactive materials.

Class 5—Oxidizing materials; organic peroxides.

Class 6—Poisonous (toxic) and Etiologic agents:

Poison gas.

Poison A (solid or liquid).

Poison B (solid or liquid).

Tear Gas.

Etiologic agents.

Class 7—Radioactive materials.

Class 8—Corrosives:

Corrosive liquids.

Corrosive solids.

Definitions of some of the proposed classifications are not contained in the Hazardous Materials Regulations and some of the classifications in the regulations may be inadequately defined. We ask for discussion of the adequacy of the proposed classifications using a common sense definition of the terms and assuming that they can be defined satisfactorily at a later date. For example, commenters should assume that poison A represents a greater hazard than poison B and that the line of demarcation will be drawn in a later rulemaking procedure.

We are considering new labels, shown in the appendix, to represent the classes of hazards discussed above. The proposed labels are consistent with the present recommended U.N. labeling system. This will result in one labeling system serving both domestic and international shipments. The illustrations have been somewhat simplified to indicate the general approach under consideration, and the recommendations relate essentially to danger labels. This system permits the addition of handling instructions and other safety information, such as "Keep Away From Fire and Heat" and "Do Not Drop".

The proposed colors are as indicated in the appendix. For compressed gases which also have flammable or poisonous

characteristics, a second pictorial symbol—a gas cylinder—has been added to the bottom half of the flammable or poisonous label to denote additional hazard. This additional symbol complements the use of the U.N. class numeral and provides a better identification of the compressed gas.

Before the U.N. labeling system could be adopted, numerous changes would be required in the Commodity List in § 172.5 of the regulations. For example, flammable solids now require a "yellow" label, as do all oxidizing materials. Under the proposed system, each flammable solid and oxidizing material must be evaluated to determine which of the flammable or oxidizing materials labels would be required, and an appropriate change must be made in the Commodity List entry for that item.

When one label does not represent all of the serious hazards presented by a material, the U.N. system provides for the additional hazards to be represented by additional labels without the class number. For example, chlorine trifluoride would have a combination of labels to show that it is a corrosive (class 8), poisonous (class 6), compressed gas (class 2), and also an oxidizing material (class 5). We are not now considering

the adoption of this part of the U.N. system. The regulations now provide that materials which present more than one hazard must be classified and labeled according to the greatest hazard, except that those materials which are also class A poisons or radioactive materials must be classified and labeled to show both hazards. The matter of dual (or maybe multiple) labels may be considered at a later date.

Public views are specifically requested on these basic questions: (1) Do the proposed classes identify the hazard potential related to transportation? (2) Do the proposed classes identify the hazards which require special packaging, special handling during transportation, or special handling after an accident? (3) Would each label give notice of the hazard potential of the material in the package to which it is attached? (4) Would each label call attention to the need for special handling and stowing of the container?

Interested persons are invited to give us their views, before December 1, 1968,

whether the U.N. labeling system

be appropriate for our regula-

Correspondence (identifying the docket number) should be submitted in duplicate to the Secretary, Hazardous Materials Regulations Board, Department of Transportation, 400 Sixth Street SW., Washington, D.C. 20590. All responses to this request will be available for examination by interested persons at the Office of the Secretary, Hazardous Materials Regulations Board.

Issued in Washington, D.C., on October 9, 1968.

W. C. JENNINGS,
Chairman, Hazardous Materials
Regulations Board.

APPENDIX I

LABEL DESCRIPTIONS

CLASS 1: Explosives. The background is burnt orange. The symbol is an exploding bomb.



CLASS 2: Compressed Gases. For nonflammable compressed gases, the background is bright green, and the symbol is a gas cylinder. For flammable compressed gases the background is bright red, and the symbols are a flame and a gas cylinder.



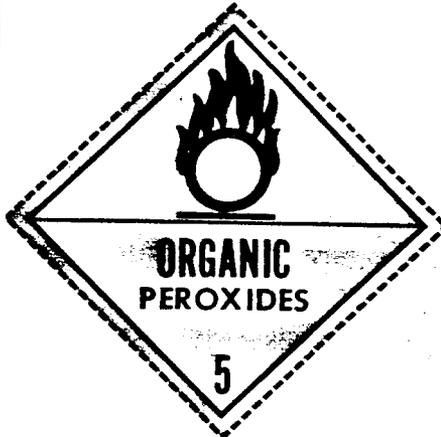
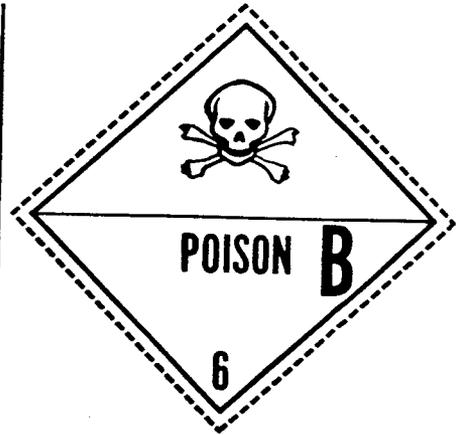
CLASS 3: Flammable Liquids; Combustible Liquids. The background is bright red. The symbol is a flame.



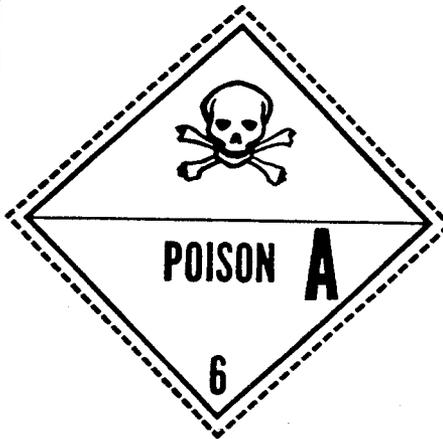
CLASS 4: Flammable Solids. The background is white, with seven bright red vertical stripes. The symbol is a flame.

Spontaneously Combustible Materials. The upper half of the background is white; the lower half is bright red. The symbol is a flame.

Water Reactive Materials. The background is bright blue. The symbol is a flame.



CLASS 6: Poisons. The background is white. The symbol is a skull and crossbones; for poison gases, the gas cylinder is also shown.



CLASS 5: Oxidizing Materials; Organic Peroxides. The background is bright yellow. The symbol is a burning sphere (flame over a circle).



CLASS 7: *Radioactive Materials*. These labels are the subject of a separate rule-making action (Docket HM-2).

CLASS 8: *Corrosive Materials*. The upper half of the background is white; the lower half is black. The symbol shows corrosives spilling from two test tubes and attacking a hand and a piece of metal.

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