

NATIONAL TRANSPORTATION SAFETY BOARD WASHINGTON, D.C.

ISSUED: January 17, 1978

Forwarded to:

Honorable Brock Adams
Secretary
Department of Transportation
Washington, D.C. 20590

SAFETY RECOMMENDATION(S)

I-78-1

International trade in hazardous materials by the United States is a multi-billion dollar activity affecting all transportation modes. In shipping these materials U.S. manufacturers and carriers must comply with U.S. Department of Transportation (DOT) regulations as well as rules of other countries in which the goods move. For example, DOT regulations govern domestic transportation and U.S. flag carriers. Intergovernmental Maritime Consultative Organization (IMCO) regulations apply to ocean transportation. International Air Transport Association (IATA) restricted articles regulations have been adopted by over 50 other countries but not by the U.S. Many European countries base their surface transportation regulations on the recommendations of a United Nations (U.N.) Committee of Experts.

The name and reference number used for a commodity frequently differs among these regulations. Whenever a shipper exports or imports hazardous materials, such differences must be identified and reconciled to insure compliance with all governing regulations. This complex task requires access to the latest revisions of all applicable regulations, by every party involved in this trade. This case-by-case approach increases the likelihood of misinterpretation and violations. These violations, even unintentional, could have catastrophic results. An example of adverse safety effects of noncompliance was discussed in the Safety Board's report of a cargo aircraft crash at Boston, Massachusetts, in 1973.^{1/}

, As shippers and carriers upgrade their data processing capabilities with computers, information processing becomes increasingly dependent on the commodity descriptions and reference numbers. Private industries,

^{1/} Aircraft Accident Report - Pan American World Airways, Inc., Boeing 707-321C, N458PA, Boston, Massachusetts, 11/3/73 (NTSB-AAR-74-16)

such as the U.S. railroads, are adopting their own descriptions, usually with unique coding methods. These descriptions or codes are used to control vehicle handling, loading, and protection, as well as compliance with other regulatory requirements, and to provide emergency response guidelines. These controls can contribute to improved safety through better conformance with regulations, but this also depends on reconciliation of differing commodity descriptions and codes.

To insure the safer shipment of hazardous materials under U.S. jurisdiction, the DOT should publish a complete hazardous materials list that cross-references commodity descriptions and code numbers in DOT and international regulations. The list could provide valuable safety benefits, such as fewer incorrectly described shipments, development of data bases for risk analysis, and improved safety programs through loss analyses of commodity statistics. Reference numbers could aid in checking shipments for compliance when they are tendered to carriers. Economic benefits could result from more efficient data processing and reduced documentation.

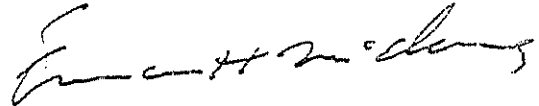
A cross-reference list of regulated hazardous materials commodity descriptions and reference numbers must be published and maintained by the DOT to achieve official status and widespread use. Once established, this list could serve as a bridge code to information systems developed for other official purposes, such as environmental protection, worker safety, and customs.

In 1976, a DOT contractor studied the possibility of harmonizing hazardous materials descriptions. The DOT's hazardous materials table in 49 CFR 172.101, the Standard Transportation Commodity Code (STCC) 49 series, the U.N. dangerous goods list, and the IMCO dangerous goods index were compared using computer and manual techniques. The study revealed that almost one-half of the entries could be harmonized; an estimated 20 percent of the remaining entries could be harmonized by minor adjustments such as spelling, hyphens, or by adopting rules of construction. Roughly 15 percent of the remaining entries could be reconciled satisfactorily by qualified technical decisions or minor regulatory changes. This indicates that the publication of commodity descriptions that are already compatible within existing U.S. and international systems is practical. The remaining incompatible items could be harmonized and phased in during the next several years. Increased harmonization, to the maximum extent permitted by domestic safety considerations, should also reduce confusion.

Therefore, the National Transportation Safety Board recommends that the Secretary of Transportation:

Develop, publish, and maintain an official list of regulated hazardous materials that cross-references all U.S., U.N., IMCO, and IATA commodity descriptions and reference numbers. The list should be arranged for convenient use by all persons engaged in the export or import of hazardous materials. (Class II, Priority Action) (I-78-1)

BAILEY, Acting Chairman, McADAMS, HOGUE and KING, Members, concurred in these recommendations.



By: Kay Bailey
Acting Chairman

