

**COMMITTEE OF EXPERTS ON THE TRANSPORT OF
DANGEROUS GOODS AND ON THE GLOBALLY
HARMONIZED SYSTEM OF CLASSIFICATION
AND LABELLING OF CHEMICALS**

**Sub-Committee of Experts on the
Transport of Dangerous Goods**
(Twenty-third session, 1-4 July 2003)

DANGEROUS GOODS IN LIMITED QUANTITIES

Copies of presentations made at informal meeting held on 5 December 2002

Transmitted by AEGPL, AISE, CEPE, FEA, FIATA, ICCA/CEFIC, IECC, IRU

During the 23rd session of the Sub-Committee in December 2002 it was agreed that there would be a review of chapter 3.4 and related text during the biennium 2003-2004. Most of this work is expected to be undertaken in an intersessional working group

During the December 2002 meeting, delegates were invited by representatives of the industries named above to attend an informal meeting on December 5. The aim was to provide some background information on how the limited quantities provisions and consumer commodities operate in practice.

The session was chaired by Mr. S. Benassai. Presentations were given by the expert from France, Mr C. Pfauvadel, Mr. Bob Richard of the USA, together with Mr Larry Bierlein, and by representatives of FEA/AISE, CEPE and IECC.

Copies of Mr Bierlein's speech and the presentations of Mr. Volker Krampe, Mr. Nicolas Noisette and Mr. Julian Humphreys are attached.

It is hoped that delegates will find the information helpful during the discussions in the new biennium.

PRESENTATION FROM MR. B. RICHARD AND MR. L. BIERLEIN

**ORIGIN OF U.S. REGULATORY PROVISIONS ON CONSUMER COMMODITIES, AS A
SUBSET OF LIMITED QUANTITY HAZMAT REGULATIONS**

Pre-DOT regulation; ICC; Bureau of Explosives. For decades, U.S. regulations on the transportation of hazardous materials recognized that the degree of hazard diminished with the decreasing size of the immediate packaging. The basic understanding is that there is little likelihood of release of all contents of combination packages, without a catastrophe destroying the entire vehicle.

Until about 1970, the applicable hazardous materials regulations identified so-called smaller "exempt packages," based on the relative hazards of the material and the strength of the inner packaging. For example, for flammable liquids, the exempt package size was 1 quart if the material of construction of the inner unit was metal, and 1 pint if it was not metal.

Until 1967, for ground transportation this regulatory authority was exercised by the Interstate Commerce Commission, which relied very heavily upon the services of the Bureau of Explosives of the Association of American Railroads. Air requirements were based on those developed for passenger and express freight shipments on trains. Ocean requirements were based on those developed by the ICC and were adapted for stowage by the U.S. Coast Guard, then part of the Treasury Department. Enforcement by field personnel was rare, and the only available sanctions were criminal fines and jail terms, that were imposed very infrequently. Other than in motor carrier safety areas, the regulated public had most of its contact with the Bureau of Explosives, which not only developed many of the regulations, but also issued approvals, conducted inspections, and issued interpretations.

With formation of the DOT in 1967, the agencies managing these regulations were consolidated into a single department, with a coordinating Office of Hazardous Materials facilitating interaction between those modal agencies. The Office of Hazardous Materials also developed and issued interpretations of the regulations across the modes of transportation. The process of removal of the Bureau of Explosives from the regulations was initiated and carried out over a period of years.

Until this time, on the subject of "exempt packages" the Bureau of Explosives had advised industry that products in these smaller sizes were not subject to any regulation. The word of the Bureau of Explosives, until the formation of DOT, was the final word because regulatory authority had been delegated to the Bureau of Explosives by Congress and by the ICC.

DOT interpretation; partially exempt packages. Among the first interpretations issued by the new DOT was one related to these so-called exempt packages. DOT advised industry that "exempt packages" were not totally exempt from controls but, instead, were only "partially" exempt.

This was the subject of a DOT public inquiry in 1972, entitled "Exemptions," which outlined the confusion and raised the matter for public comment. (Jan. 6, 1972; 37 Fed.Reg. 149).

Specifically, the DOT interpretation noted that shipping paper and marking requirements continued to apply to these packages, even though no vehicle placards, package labels, or stowage limitations were required.

In other major rulemaking actions, DOT clarified and expanded the definitions of the flammable liquid and corrosive materials classes. Producers, distributors, and retailers of many materials began to realize the consequence of this series of rulemaking actions and interpretations. Many household products such as mouthwash, vanilla extract, drain cleaners, perfume, and aerosol products fit the revised definitions.

In addition, the interpretation that the "exempt package" provisions were only partial meant that every affected consumer product would have had to be accompanied by a certified shipping paper on each leg of its distribution, from point of manufacture, through various warehouse and distribution centers, to the point of consumer purchase. This complexity was compounded by the facts that all were re-shippers, without specific product knowledge within their companies, most employees were not familiar with hazmat and were subject to high turnover, and the make up of the shipment varied at each leg.

Not only would the shipment vary with each move, but the items in each package often were unique. For Avon, for example, their pick-pack operation had employees filling cartons as they moved down a conveyor. While the order sent in by the field representative identified the materials, a single representative often would get multiple cartons. To know specifically which carton did or did not have a perfume, or aerosol, would have required vesting the lowest employee level with full discretion on identifying the product, identifying the carton, and applying one or more markings to it. The same situation was faced at every grocery, pharmacy, and hardware store distribution center.

Because of the earlier views of the Bureau of Explosives, none of this compliance mechanism was in place, nor was it realistic to expect that it could be put in place or, if that was done, that it could be maintained through a single holiday season. In addition, of course, was the realization that safety did not warrant the effort.

Rulemaking petition. The precipitating factor was an application by United Parcel Service for a DOT exemption from shipping paper requirements for what had been known as "exempt packages." DOT's denial of that application focused on the benefits of a shipping paper to emergency responders, and led to a UPS proposal that industry pay a \$5 per package surcharge on all affected hazmat shipments.

The UPS proposal galvanized its customer base, and led to development of a petition for rulemaking identifying the wide range of consumer products affected, and the near impossibility of having each person in the distribution chain trained sufficiently to complete and certify a DOT shipping paper.

More importantly, there had been no history of difficulty in shipping these materials with no requirements, as the rules had been interpreted prior to DOT by the Bureau of Explosives. Surveyed industries provided examples of products, product sizes, and shipping histories. Fire fighters were of the view that to compel them to go through a stack of shipping papers describing nail polish, or perfume, or drain cleaner, while waiting to decide how to respond to a vehicle accident, would be a highly inappropriate distraction.

While regulators in DOT did not strongly disagree with this position, the difficulty remained in how to define the consumer products in a fashion that would distinguish them from other limited quantity packages, such as laboratory reagents, that might warrant at least a shipping paper description.

Consumer commodity definition. The answer supplied by the petition for rulemaking was found in consumer legislation. The Hazardous Substances Labelling Act required inner package warnings for certain materials used in or around the home. The current version of this law, now administered by the Consumer Product Safety Commission, may be found at 15 U.S. Code 1261. These package marking rules had been applied for years to "any hazardous substance intended, or packaged in a form suitable, for use in the household," without apparent confusion over what was and what was not a consumer product. The premise in the petition for rulemaking, therefore, was to use the same definition to identify for DOT relief, what had been identified for years for FDA and CPSC marking and labelling.

The concept, therefore, was a body of items that met size and other limitations for limited quantity relief from labelling and specification packaging, but also had the added restrictions of (a) being in consumer

sizes, (b) containing materials that were acceptable under non-DOT consumer legislation for use in the household, and (c) in packaging that the shipper wanted to get to the ultimate customer without unsightly marring or other damage. This was the concept that was discussed extensively with the agency before being proposed.

After proposal and adoption, it was recognized that many of the same articles might be sold into non-consumer markets. The same material, posing the same level of risk, would be handled differently. To avoid this "discrimination against certain kinds of material that present the same limited potential hazard as those identified as consumer commodities," DOT adapted the definition to describe materials "suitable" for retail distribution. Therefore, the determining criteria were the legal acceptability of the product in the home, and appropriate packaging for that environment, regardless of the actual destination of the particular shipment.

ORM-D and marking. It was generally felt that this approach would work, and it was generally agreed that regulation of these materials only became an issue in air transportation. For rail, highway, and water shipments, DOT was willing to remove these materials from the regulations.

To remove *all* identifiers, however, would mean that a package arriving at an airport would not be recognized as a regulated material. Hence, the idea was to have the original product manufacturer, the one most familiar with the contents and the packaging, put a visible signal on the outside of the package that could be recognized by air carrier personnel.

At this time, airline pilot groups were saying they did not want to draw distinctions between acceptable flammable liquids and unacceptable flammable liquids, or good corrosives versus bad corrosives, so the agency looked for a mark that would not utilize traditional class names.

For years, under CAB Tariff 6-D, air carriers had regulated certain articles beyond the scope of the DOT regulations. They called these items "Other Regulated Articles" or ORA materials. Tariff 6-D, developed by the carriers and sanctioned by the Civil Aeronautics Board, was a competing document in the hazmat field and was a key source of confusion resulting in the crash of a PanAm cargo jet in 1973. In attempting to create a single regulatory volume in Docket No. HM-112, to remove such confusion, DOT was working on converting the 6-D ORA materials into DOT-regulated items. DOT, however, chose to call these Other Regulated Materials or ORMs.

ORM-A materials were those regulated by Tariff 6-D. Certain other materials regulated uniquely in the air and water modes were called ORM-B and ORM-C. With this precedent in hand, DOT chose to assign the next subgroup or ORM-D to consumer commodities. Later, environmental hazards were added as ORM-E. As originally adopted, ORM-D would be a separate class for materials initially limited to consumer commodities but potentially expandable to include other items.

A material offered for transport by air, particularly a liquid, also had to meet packaging requirements unique to that mode. These requirements relate primarily to temperature and pressure differentials, and preparation of closures. In order to distinguish those consumer commodities acceptable for ground transport, from those meeting the higher packaging demand for air, DOT adopted the ORM-D-AIR mark. This was the original air eligibility marking.

The mark, therefore, as originally designed, would be highlighted only in training of air carrier personnel. Because a material reclassified as ORM-D would not bear a label, and was not subject to any carrier requirements related to stowage or placarding, this mark could be ignored in the ground and water modes. It meant nothing to lay people. In the air mode, the reclassified ORM-D materials were not subject to stowage limitations, but did require a shipping document for air transportation.

Modes and responders. Through the discussion of this petition for rulemaking, both before and after it was filed, carriers expressed appreciation when they realized the low level of the hazards involved, and the fact that their people would not be required to take any more steps with these packages in ground and water transport than they did for unregulated materials.

In the NPRM in HM-112, ORM-D concept was opened for comment, the following summary of earlier input was offered:

"Two other comments providing substantial comment in response to the request were received. The President of the Uniformed Fire Fighters Association of Greater New York expressed his view that shipping papers for materials covered by the partial exemptions serve little or no benefit to fire fighters. The General Manager of the International Association of Fire Chiefs states in part as follows:

'Specifically our comments are directed to that requirement, as referred to in your release, that each driver of a motor vehicle have in his possession copies of the shipping papers describing the articles transported by their technically prescribed shipping nomenclature and classification. Regardless of quantity involved, we refer now, not to those classified as hazardous but designated partially exempt by reason of the relatively low-risk potential. In this partially exempt category, there are found ordinary every day household products such as insecticides, room fresheners, a multitude of toilet articles and medicines.

'Under existing regulations, the driver is expected to carry the shipping documents for each of the many shipments in his vehicle either on his person or in the cab of the truck. The purpose -- and we consider it laudable -- is to transmit to firemen, in an emergency, knowledge of the contents of the vehicle so that they may deal effectively with the situation without undue danger to their persons. However, in a fire situation where the materials mentioned above are in limited quantities and are mixed with ordinary combustible materials, it is unlikely that a fire officer would attempt to examine shipping papers prior to extinguishing the fire. The hazard does not warrant the delay involved in getting control of the fire.'" Docket No. HM-112; Jan. 24, 1974; 39 Fed.Reg. 3022.

Subsequent amendments. The relief for ORM-D materials in ground transport has been expanded under 49 CFR 173.156. Specifically, when unitized in carts, cages, boxes, or other overpacks in controlled distribution, neither the strong outside packaging, the 30-kilo per box limit, nor the ORM-D marks are required. So-called "display packs" also are given weight-limit relief in that section, regardless of type of ground carrier involved.

International codes. Subsequent to the U.S. adoption of the consumer commodity definition and ORM-D class, similar concepts were proposed to and were adopted by ICAO, IMO, and the UN. Some differences between codes remain, however, in terms of materials authorized, and quantities authorized.

Regardless of the phrasing of the codes, it is not understood or expected that in any country, consumer commodity shipments are accompanied through all phases of their distribution by a shipping paper. The problems recognized in the U.S. with shipping papers under HM-112 are not unique to Americans or their retail distribution system.
