

SP-20

NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

*Case I-78*

ISSUED: May 16, 1985

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Forwarded to:

Ms. M. Cynthia Douglass  
Administrator  
Research and Special Programs  
Administration  
Washington, D.C. 20590

SAFETY RECOMMENDATION(S)

I-85-10 and-11

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About 1:30 p.m., e.s.t., on March 6, 1984, orange vapors began escaping from an MC-307/312 cargo tank containing 3,200 gallons of mixed hazardous waste acids while it was parked at a truck dealership in Orange County, Florida. The volume of vapors increased as the acids rapidly corroded the cargo tank's stainless steel shell. At 5:39 p.m., the acids penetrated the cargo tank's shell and flowed onto the ground. About 250 persons were evacuated from a 3-square-mile area. Twelve persons who came in contact with the vapors were injured, four seriously. The cargo tank was destroyed. 1/

The Orange County Fire Department (OCFD) experienced great difficulty in determining the composition and hazards of the waste involved in the shipment. Fire department personnel arrived on scene at 3:02 p.m. and immediately began evacuating areas engulfed by the acid vapor cloud. The description of the material on the shipping paper (waste, acid liquid, NOS) obtained from the driver about 3:30 p.m., was too general to help the OCFD effectively mitigate the circumstances. Because the OCFD could not get quick, accurate information about the composition of the hazardous waste acids from either the shipper or the carrier, it could not determine the type of cargo tank to be used to safely transfer the load, or take other measures to neutralize the cargo. As a result, the acid continued to corrode the cargo tank.

Harris Corporation (Harris) did not provide an accurate description of the material to the Orange County Fire Department (OCFD) until nearly 4 1/2 hours after it arrived on scene. At that time, however, the OCFD had no reason to believe the description was any more accurate than several conflicting reports that it had received earlier from both Harris and Chemical Waste Management (CWM). Moreover, by then, hazardous wastes had penetrated the cargo tank and had begun flowing onto the ground.

1/ For more detailed information, read Hazardous Materials Investigation Report--"Release of Hazardous Waste Acid from Cargo Tank Truck, Orange County, Florida, March 6, 1984" (NTSB/HZM-85/01).

An accurate description of the materials transported and the hazards they present is essential to help emergency response personnel make proper decisions to protect the public and to minimize damage to property and the environment. As a minimum, DOT's regulations should require, rather than authorize, that technical and chemical group names be entered on shipping papers when general shipping names are used; it also should require that improved product hazard information accompany bulk shipments of hazardous waste materials because of the increased risk involved with those shipments.

On November 8, 1979, the Materials Transportation Bureau (MTB) published proposed rulemaking to require that hazardous materials shipped under n.o.s. entries be identified by technical names. In a letter to MTB dated January 7, 1980, the Safety Board stated that it supported the proposed rulemaking which expressed MTB's belief that there was a need "that certain hazardous materials be more specifically identified than is presently required." MTB stated that EPA had requested that it "consider requiring the identification of each n.o.s. entry on shipping papers and package markings by the technical name of the hazardous material to permit more accurate identification of the material for emergency response actions." However, in the final rule published May 22, 1980, MTB concluded that the requirement for more specific information should relate only to poisonous materials because, among other reasons, such information would be of little or no value in an emergency.

On November 29, 1983, the Safety Board recommended that the Department of Transportation, Research and Special Programs Administration (RSPA):

Determine, by mode of transportation, the feasibility of requiring comprehensive product-specific emergency response information, such as Materials Safety Data Sheets, to be appended to shipping documents for hazardous materials transported in bulk quantities, giving particular attention to the early emergency response problems posed by n.o.s. commodities in transit. For those modes of transportation for which a positive determination results, incorporate necessary requirements into Title 49 of the Code of Federal Regulations. (Class II, Priority Action) (I-83-2)

On March 16, 1984, RSPA published an advance notice of proposed rulemaking and notice of public hearing to solicit comments on Safety Recommendation I-83-2.

On July 11, 1984, in response to the advance notice of proposed rulemaking, the Safety Board stated, "To aid making these critical, early decisions, material - specific information is often necessary. . . MTB should be considering how and by what manner improved product - specific information can be made available immediately to responding emergency agencies. . . n.o.s commodities all should be identified in a positive manner on all shipping and transportation documents. . . by merely adding the chemical name of the product to the current method of listing products, n.o.s materials will not only remain keyed to the present emergency response guides, but also be positively identified for query of other reference sources." Currently, RSPA is analyzing the comments and responses. As a result of the March 6, 1984, accident, the Safety Board urges MTB to move as expeditiously as possible in response to Safety Recommendation I-83-2.

Hazardous wastes often are combinations of several hazardous materials which have been contaminated during diverse manufacturing processes. General information is not available on the reaction of these highly varied hazardous wastes with transportation packagings or linings. It is imperative, therefore, that shippers and carriers determine the unique hazards posed by the wastes before the materials are transported.

The Department of Transportation (DOT) has assigned responsibility to the shipper for determining proper packaging of hazardous materials throughout various parts of the regulations (49 CFR 171.2, 171.3, 172.101, 173.3, 173.21, and 173.24). On April 3, 1983, DOT published interpretative material in the Federal Register (48 FR 15127-8) "to enhance the safe transportation of hazardous materials in cargo tanks," and because, as a DOT witness testified during the public hearing of the investigation, "there was some misunderstanding in the shipping community as far as their responsibilities were concerned for the selection of the proper vessel and identification of the proper vessel." Therein, DOT undertook to explain to shippers of hazardous materials the responsibilities assigned to them in the regulations (49 CFR 173.22 and 173.24) and, to advise shippers of their responsibility to assess the compatibility of their products with materials used in the construction of cargo tanks and of the need to examine their operating practices relative to offering hazardous materials for shipment in cargo tanks to assure they were in compliance with the regulations. Nevertheless, the Safety Board believes that DOT's regulations should be revised to clearly describe the responsibilities that are assigned to the shipper, and that particular emphasis should be given to the unique hazards that waste material may present.

Therefore, as a result of its investigation, the National Transportation Safety Board recommends that the Research and Special Programs Administration, Department of Transportation:

Determine the adequacy of general shipping names on shipping papers for hazardous wastes and the need for additional information, such as technical and chemical group names, to better inform emergency response personnel about the composition and hazards of the material being shipped. (Class II, Priority Action) (I-85-10)

Revise the hazardous materials regulations to clearly describe shipper responsibilities for performing a sufficient analysis to determine that materials shipped are compatible with the packaging materials to be used in transportation, and that particular emphasis is given to the unique hazards that waste material may present. (Class II, Priority Action) (I-85-11)

BURNETT, Chairman, GOLDMAN, Vice Chairman, and BURSLEY, Member concurred in these recommendations.

By:   
Jim Burnett  
Chairman