

NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

ISSUED: November 29, 1973

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Forwarded to:

Honorable Alexander P. Butterfield  
Administrator  
Federal Aviation Administration  
Washington, D. C. 20591

SAFETY RECOMMENDATION(S)

A-73-110

In our continuing investigation of the Pan American World Airways, Inc., Boeing 707, accident at Boston, Massachusetts, on November 3, 1973, we have identified unsafe conditions that should be brought to the immediate attention of all air carriers involved in the transportation of hazardous materials.

A portion of the cargo carried aboard this all-cargo aircraft was chemicals classified as dangerous articles under the provisions of 14 CFR Part 103.1 Included was nitric acid in five one-pint, plastic-capped glass bottles packaged inside wooden boxes cushioned with combustible material similar to sawdust. The outer package did not carry the specification marking "This Side Up" or "This End Up," although two arrows were stenciled on all four sides, suggesting how the package was to have been oriented. The packages appear to have carried the label "White acid" before the accident.

In a test involving induced spillage in one of the nitric acid packages recovered at the scene of the accident, smoke developed within 13 minutes and the outer wooden package started to burn fiercely within 16 minutes. An extremely hazardous condition could be caused accidentally by a bottle cap that was insecure and an outer package that was not properly oriented because of inadequate markings and warnings, or because of improper handling or storage while in a carrier's possession. If a fire were to break out the chemical reaction would be extremely difficult to control, particularly in flight.

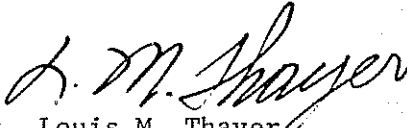
Preliminary indications are that on the accident aircraft some of the packages containing hazardous materials may have been placed on their sides.

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Our investigation of this aspect of the problem is continuing; however, the National Transportation Safety Board is concerned about the likelihood of serious dangerous article incidents involving hazardous materials which are not packaged, labeled, and handled according to the provisions of 14 CFR 103 and 49 CFR 172, 173, and 178.

Accordingly, the Safety Board recommends that the Federal Aviation Administration issue a telegraphic alert to all air carriers involved in the transportation of hazardous materials citing the dangers associated with the handling and transportation of liquid restricted articles, including the need to preclude the air shipment of any improperly labeled hazardous materials packages, and the need to comply with regulations concerning "This Side Up" or "This End Up" stencils on properly labeled hazardous materials packages, to prevent spillage from improperly oriented packages.

McADAMS, THAYER, and BURGESS, Members, concurred in the above recommendation. REED, Chairman, and HALEY, Member, were absent, not voting.

  
By: Louis M. Thayer  
Acting Chairman

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