Executive Summary
GATX 41623 and four other tank cars loaded with isobutane gas were uncoupled at the west end of Decatur Yard by a switching crew and allowed to free roll eastward on yard track 11. The car impacted an empty boxcar, and its coupler overrode the tank car coupler and punctured the tank. Isobutane escaped and vaporized for 8 to 10 minutes before it exploded. The yard, surrounding residences, and commercial facilities were damaged extensively by fire and shock waves. Seven employees died from burns, and 33 employees were injured. Three hundred sixteen persons outside the rail yard were also injured as a result of the explosion. Property damage was estimated at $18 million.

Probable Cause
The National Transportation Safety Board determines that the probable cause of the accident was the overspeed impact between the heavy cut of tank cars and the uncoupled light boxcar, which resulted from the release of the tank cars at a higher than acceptable switching speed. The lack of written guidelines to assist the switchman in determining the proper switching speed contributed to the accident. The crewmembers' lack of understanding of the risks involved in switching hazardous materials also was a contributing factor.

Recommendation: THE NTSB RECOMMENDS THAT THE FEDERAL RAILROAD ADMINISTRATION, IN COOPERATION WITH THE RAILWAY PROGRESS INSTITUTE AND THE ASSOCIATION OF AMERICAN RAILROADS: PROMULGATE REGULATIONS TO LIMIT LOSSES IN ACCIDENTS INVOLVING THE TRANSPORTATION OF BULK HAZARDOUS MATERIALS BY RAIL.


Recommendation: THE NTSB RECOMMENDS THAT THE NORFOLK AND WESTERN RAILWAY COMPANY: INSURE THAT THE YARD EMPLOYEES AND THEIR SUPERVISORS WHO ARE INVOLVED IN THE HANDLING OF HAZARDOUS MATERIALS ARE COGNIZANT OF THE RISKS INVOLVED IN SWITCHING HAZARDOUS MATERIALS AND REQUIRE SWITCHMEN TO SWITCH CARS OF HAZARDOUS MATERIALS ACCORDINGLY.

Recommendation: THE NTSB RECOMMENDS THAT THE NORFOLK AND WESTERN RAILWAY COMPANY: ESTABLISH A PLAN FOR COMBATTING EMERGENCIES IN DECATUR YARD SUCH AS THE ONE ON JULY 19, 1974, WHICH SHOULD INCLUDE AN ADEQUATE FIRE CONTROL SYSTEM.