

Abstract

Hazardous and dangerous goods are often shipped by air on both passenger and cargo aircraft. These hazardous materials (HAZMAT), also known as dangerous goods (DG), pose a danger to flight safety, passengers, and airline personnel. This research explored how effective the Aviation Safety Reporting System (ASRS) is at identifying aviation related HAZMAT incidents. Early identification of HAZMAT trends using the ASRS data could lead to changes in aviation safety monitoring and reduce the likelihood of a HAZMAT event causing an incident. This study identified prevalent categories of hazardous material found in reported incidents. The study further identified that most of the HAZMAT incidents involved cargo being flown on passenger aircraft and that two-thirds of the incidents were discovered after take-off. Missing or incorrect documentation was identified in approximately half of the cases. Statistical analysis of the data indicated that HAZMAT paperwork errors correlated significantly with damage to an aircraft and that the source of the problem (passenger carry on, passenger checked, cargo) correlated significantly with where (climb-out, landing, ground, cruise) the problems occurred.