

Thesis topic: "SYSTEM ASPECTS OF SAFETY IN THE ROAD TRANSPORT OF HAZARDOUS MATERIALS"

Summary

Every year, a large number of chemical compounds very dangerous to the natural environment and humans is produced worldwide. Such harmfulness can be caused by their biological, physical and chemical properties. Constant increase in the amount of transported hazardous materials raises the risk of chemical, biological, radioactive or explosive threat.

In Poland, since 2015, there have been about 1,500 road incidents involving vehicles carrying hazardous substances and objects, including several dozen of accidents and several catastrophes with features of a serious accident. Despite the insignificant share of such events in the total number of road incidents, their significance is determined by the scale of the generated effects. Due to the high probability of potential vehicle failures, which may result in fires, explosions and area contamination, the possibility of such catastrophes should be considered more broadly. Referring not only to the direct consequences resulting from the incident itself, but also to the post-accident effects related to the uncontrolled release of hazardous materials.

As a result of the conducted research, it was found that currently in our country, despite the high economic development, in connection with the occurring irregularities, the active and post-accident safety of road transport of hazardous materials is at a low level. The current state of active safety is mainly influenced by ADR vehicles with technical defects and their inadequate equipment. Moreover, a small number of ADR car parks, main roads and city ring roads, lack of new training methods and innovative systems dedicated to road transport of hazardous materials. It should also be noted that in Poland there is no nationwide vehicle monitoring system for real-time control of road transport of hazardous substances and objects. The obligation of such vehicle monitoring is imposed by the EU and national law on tax administration. Current level of post-accident safety also depends on the functioning of the chemical and ecological rescue system. Therefore, its standard is mainly influenced by activities carried out by officers of the State Fire Service, namely outdated methods of designating endangered zones after uncontrolled release of toxic hazardous materials.

In order to increase the level of safety of road transport of materials, a nationwide safety system dedicated to this type of transport has been developed. This system, while processing data relating to active safety, may have an impact on the elimination of the resulting hazards or regards post-accident safety, reduce human loss to a minimum. However, the implementation of the model of the National System for the Safety of Road Transport of Hazardous Materials requires updating legal provisions regulating the functioning of the National Fire and Rescue System and the act on the transport of hazardous materials.

The analysis of identified factors that may significantly affect the safety of transport of dangerous substances and objects has pointed to existing threats in this area. Detailed analysis of the state of knowledge about various conditions of road safety in the transport of hazardous materials allowed to identify aspects of safety sciences, which until now have been often overlooked in scientific research.

Keywords:

road transport, hazardous substances and objects, high risk hazardous materials, chemical hazard, biological hazard, explosion hazard, radioactive hazard, road transport safety, active and accident safety, national security system