

## SUMMARY

The dissertation entitled "*Fire safety in the work environment of economic entities on the example of the animal feed industry*" contains proposals for improving the work safety system, including fire safety, for both employers and employees of the animal feed industry.

The main motive for writing this work was the trends in employee behavior, as well as the observed difficulties and organizational and technical problems of entrepreneurs, which undoubtedly have an impact on work safety, including fire safety.

In recent years, it has become very important for entrepreneurs to implement and maintain at an appropriate level an appropriate safety management system, which will enable protection of all entities in the production process from fire hazards appearing in the technological process.

The presented organizational and technical solutions based on the research results and proposals resulting from the final conclusions may become useful material for entrepreneurs in planning and organizing the work safety and fire safety system.

The content of the doctoral dissertation includes both theoretical considerations and the results of empirical research. In terms of structure, the dissertation consists of an introduction, a methodological chapter, three substantive chapters (summarized with conclusions), a conclusion, a bibliography, a list of tables, graphs, drawings, photos and appendices.

The first chapter, entitled "*Methodological foundations of research*", contains issues of the subject and purpose of scientific research. The organization, scope and limitations of the research are presented, as well as the research sample is characterized. For the purposes of the conducted research, the author proposed his own definition of fire safety.

The main research problem of this dissertation is as follows:

*What kind of activities are undertaken by the economic entity producing animal feed in the field of occupational and fire safety, based on applicable legal standards, existing technical and organizational solutions in order to limit the impact of hazards and risks on the work environment, and what may be the areas and directions of their improvement?*

For the purpose of the research and detailed research problems adopted in this way, based on the state of knowledge, literature analysis and forecasted changes, the main working hypothesis and three detailed hypotheses were formulated.

The first chapter also presents the methods, techniques and research tools used in the work, as well as the division of the surveyed persons into two groups of respondents. A preliminary analysis was carried out in terms of the characteristics of the respondents in terms of: education, place of employment (position), age and work experience.

In the second chapter entitled *"Threats and methods of assessing the risk of economic entities in the production process"*, the concepts related to safety, hazard and risk were presented. The relationships between risk, resistance and susceptibility of the economic entity to changes were analyzed. The cascade effect, the cause-and-effect chain of the emerging threat, which may be the result of long-term actions of nature or man, was also discussed.

Due to the studied area of safety, selected types of risk were presented as potentially the most susceptible elements to hazard in the work environment. The methods of managing occupational risk in the work environment were described through available methods and models for assessing its level and existing expert documentation, which contains existing methods of analyzing the risk of fire and explosion in the work process.

The third chapter is entitled *"Labor protection system in Poland"*. This chapter presents the essence of the legal basis, organization of work safety and fire safety in the production process.

The role of public administration entities, local government in shaping local safety in the event of a fire or explosion in an animal feed production enterprise is presented.

The tasks of experts (experts) in the field of work safety and fire safety are presented. The chapter also contains legal aspects of the organization, including fire protection in industry and the resulting obligations of employers in the field of occupational health and safety and fire safety.

In the fourth chapter, entitled *"Improving the process of managing the safety of economic entities"*, based on the obtained research results, some of which were also included in the second and third chapters, proposals for improving the work safety system, including fire safety in the animal feed production industry, are presented.

In the chapter, the author proposes directions of development in the field of work safety and fire safety through the implementation of appropriate forms and methods of improving employers and employees and proposals of actions, including methods of training organizations that can be implemented together with employees in order to ensure the safety of the work process.

Each chapter presents research results and formulates conclusions that were the result of verifying the adopted hypotheses. The conclusion includes a summary of the work and final conclusions regarding the research problem being solved.

The dissertation ends with appendices containing research tools used for the research: a survey questionnaire with instructions for completing it, an interview questionnaire. The appendix in the form of a fire safety control form was used by the author to determine the safety

status of individual plants that were analyzed, and at the same time it was the basis for defining a proposal for a modern approach to fire safety management in production.

The appendices to the dissertation also include an observation sheet, in which the author, based on the analysis of the behavior of entities - participants in the work process, presented observations and conclusions, and also proposed recommendations in the area of work safety.

The dissertation exhausts the main research assumptions supported by a detailed and thorough analysis of the literature on the subject, analysis of empirical material in the form of research results and the selection and application of appropriately selected research methods for this purpose.

The descriptions and definitions related to safety engineering included in the work allow for understanding the issues of internal safety of economic entities in safety management, but are not the subject of detailed research by the author. In the content of the dissertation, the author, based on his knowledge, analysis of the subject literature and conducted research, tried to thoroughly and broadly present issues related to the occupational safety and fire safety system using the example of selected plants producing animal feed.

**Keywords:** risk, occupational risk, safety, fire, explosion, solutions, crisis, crisis management