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MONITORING AND MODELING OF THE OCCUPATIONAL HEALTH AND SAFETY MEASURES IN TWO ENVIRONMENTAL RESEARCH LABORATORIES

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In laboratory studies, a proper risk management must be done for the realisable risks, therefore, occupational health and safety precautions must be implemented for the health of the laboratory personnel and for the reliability of the analysis results. It is possible to describe the most common risks encountered in laboratory studies and it can be determined the precautions through the methods used in risk analysis. The novelty of the study is to take advantage of the mathematical modelings for the first time in Turkey in environmental research laboratories choosing the most efficient, economic and quick precautions against to the probable risks, working accidents and financial harms. The main aim of this study was to monitor the possible risks and to determine the precautions in order to make occupational health and safety assessment studies in a chemical and in a microbiology laboratory in Environmental Engineering Department – Dokuz Eylul University in Izmir/Turkey using two different risk assesment methods namely Analytic Hierarchy Process – (AHP) and Kinney Method for occupational health and safety assessment studies based on chemical, physical and biological factors. The significance levels of the safety measures that must be taken in laboratories could be determined as percentages with AHP. Degree of urgency of the safety measures that must be taken in laboratories according to the quantity of the risk value were detected with Kinney Method. As a result of this study, probable risks, working accidents and financial harms in these laboratories could be minimized with occupational health and safety precautions using mathematical modelings.

Biography

Gokce Guney has been graduated from Engineering Faculty of Dokuz Eylul University, Turkey as an Environmental Engineer. Then she started working at Environmental Engineering Department of Dokuz Eylul University, Turkey as a research assistant. Later on she obtained her post-graduation in master of science from The Graduate School of Natural and Applied Sciences of Dokuz Eylul University, Turkey from Environmental Engineering Department. Now, she has continued her master of science in Occupational Health and Safety Department and doctor of philosophy in Environmental Engineering Department both at The Graduate School of Natural and Applied Sciences of Dokuz Eylul University, Izmir, Turkey.

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