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STUDY ON THE BEHAVIOUR OF MINE RESCUE BRIGADESMEN EXPOSED TO HIGH TEMPERATURE AND HUMIDITY IN THE TRAINING FACILITY

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Abstract

Intervention and rescue activity in special conditions may be conducted only by trained and authorized personnel using individual protective breathing equipment. While working with the insulating respiratory device, there are a number of factors that make work stressful. As a rule, those working under protection of the insulating respiratory devices, besides carrying on their back a device weighing 14-18 kg, are also subject to great difficulty, in terms of securing their own safety, saving lives, quick-acting under heavy microclimate conditions (high heat and humidity). For interventions demanding predominantly physical effort, in high temperature and humidity environments, where work processes involve large muscle groups, changes in physiological indicators, during or immediately after effort, have been observed, especially in the cardiovascular system and respiratory system. In this respect, the paper presents a research on changes in physiological parameters (pulse and blood oxygen saturation) of intervention and rescue personnel in situations where they have to intervene in high temperature and humidity environments. To that effect, several teams of mine rescue brigadesmen were monitored throughout their training within the National Institute for Research and Development in Mine Safety and Protection to Explosion INSEMEX Petroşani training facility, which may generate the most unfavourable conditions that can be encountered in various emergency situations.

Keywords: heat stress, high temperature and humidity, intervention and rescue personnel, protective breathing apparatus, training facility

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