

## ***INFLUENCE OF NEGATIVE FACTORS OF THE TECHNOSPHERE ON HEALTH OF FIREFIGHTERS IN THEIR PROFESSIONAL ACTIVITY***

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*Due to man's technogenic activity, the biosphere is destroyed or changed in many regions of the Earth and a new type of habitat is created – the technosphere, which is regarded as a space under the influence of activity (production, instrumental, technical) and occupied with its products [1,2].*

*The technospheric space fulfills not only its positive role, in many respects providing for human activity, but also impacts negative factors (harmful, dangerous, striking) on the person himself and vital spheres for him (the natural environment, the biosphere) [3]. The structure of the technosphere includes hazardous production facilities, where incidents, accidents, industrial accidents are possible. The consequences of accidents can cause emergencies of anthropogenic nature, with the main major threat represented by energy flows and harmful substances [4].*

*At hazardous production facilities are liquefied and compressed gases, hazardous chemicals and sources of ionizing radiation. As a result of accidents on such objects, explosions, fires, toxic and radiation damage may occur [5]. Thus, fires and explosions can be in buildings, on communications and technological equipment of potentially dangerous objects, at the objects of extraction, processing and storage of flammable, combustible and explosive substances, in transport, in mines, in chemically and radiation hazardous facilities.*

*In the event of an accident at hazardous industrial facilities, hazardous factors (mechanical, ballistic, thermal, etc.) are created that cause damage to human health (illness, injury, death). Damaging factors lead to the disease or death of a person directly in the zone of their action. Harmful factors can cause these effects after exposure [6,7].*

*In the case of industrial disasters, the most dangerous hazards are the dangerous fire factors – shock wave, thermal radiation and convective currents from an open flame. A comparatively new approach to the study of the consequences of exposure to fire hazards on humans is to study the processes of interaction of thermal radiation with the elements of the "thermal source - clothing materials - air gaps - human skin" system using mathematical modeling and a systematic approach to the analysis of complex processes [8].*

*For firefighters, low-temperature fires (up to 600° C) are toxicologically extremely dangerous, due to the release of dioxins. In the smoke zone are formed: benzene, vinyl chloride, nitrogen oxide, sulfur dioxide, hydrogen cyanide, chloroform, hydrogen chloride, carbon oxide, formaldehyde [9]. When carbon monoxide emitted during burning of organic materials acts on the*

body, carboxyhemoglobin is formed in the blood, which causes dizziness, nausea, vomiting, weakness; defeat of the nervous and cardiovascular systems; loss of consciousness, asphyxia, hypoxia, coma, fatal outcome. Death with extensive burns is possible from burn shock, developing with thermal damage 40-60% of the body area [10].

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